



U.S. Department
of Transportation

National Highway
Traffic Safety
Administration

TRAFFIC TECH

Technology Transfer Series



DOT HS 812 479

April 2018

Countermeasures That Work, Ninth Edition

The National Highway Traffic Safety Administration has published its ninth edition of Countermeasures That Work. The guide is a basic reference to assist State Highway Safety Offices (SHSOs) and other professionals interested in highway safety in selecting effective, evidence-based countermeasures for traffic safety problem areas. These areas include:

- Alcohol- and Drug-Impaired Driving,
- Seat Belts and Child Restraints,
- Speeding and Speed Management,
- Distracted and Drowsy Driving,
- Motorcycle Safety,
- Young Drivers,
- Older Drivers,
- Pedestrian Safety, and
- Bicycle Safety.

The guide:

- Describes major strategies and countermeasures that are relevant to SHSOs;
- Summarizes strategy/countermeasure use, effectiveness, costs, and implementation time; and
- Provides references to the most important research summaries and individual studies.

What's included: The guide contains a chapter for each problem area. Each chapter begins with a brief overview of the problem area's size and characteristics, the main countermeasure strategies, a glossary of key terms, and a few general references. Next, a table lists specific countermeasures and summarizes their effectiveness, cost, use, and implementation time. Each countermeasure then is discussed in approximately one page.

The guide provides an overview and starting point for readers to become familiar with the behavioral strategies and countermeasures in each program area. It focuses on countermeasures about which studies have shown evidence of effectiveness. Only those countermeasures that are supported by traditional highway safety grant programs have

been considered. Accordingly, vehicle and roadway-based countermeasures are not included. Updates to the guide are based only on published research. Unpublished studies and research are not included in this edition.

Some countermeasure areas are covered in more depth than others, due to the availability of published research. For example, impaired driving has a long and rich research history, while other topics, such as driver distraction and drowsiness, have not been studied as much. This difference in the availability of published research findings is due to a number of factors, including the relative scale of the problem areas, the availability of reliable data on the frequency and characteristics of some safety problems, the recency of some safety topics, and the challenge of conducting scientifically valid studies in certain behavioral areas.

References are provided for each countermeasure. When possible, summaries of available research are included, with web links when available, so users can find most of the evaluation information in one place. If no summaries are available, one or two key studies are cited. There has been no attempt to list all research, studies, or program information available on any countermeasure. Readers interested in particular problem areas or countermeasures are urged to consult the references. Although all web links in this guide were accurate at the time of publication, please note that web links may change periodically. For broken links to NHTSA documents, we recommend searching NHTSA's behavioral safety research reports (<https://rosap.ntl.bts.gov>). For broken links to other reports or documents, refer to the website of the agency that produced the report.

The guide is not intended to be a comprehensive list of countermeasures available for State use or a list of expectations for SHSO implementation. For a description of an optimal State countermeasure program, Highway Safety Offices should refer to the *Highway Safety Program Guidelines*, which delineate the principal components of each of the major program areas.

The evaluations summarized in this guide allow SHSOs to benefit from the experience and knowledge gained by others and to select countermeasure strategies that have either proven

to be effective or shown promise. States choosing to use innovative programs can contribute to the collective knowledge pool by carefully evaluating the effectiveness of their efforts and publishing the findings for the benefit of others.

The Star-Rating System – What the effectiveness data means:

The effectiveness of any countermeasure can vary immensely from State to State or community to community. *What* is done is often less important than *how* it is done. The best countermeasure may have little effect if it is not implemented vigorously, publicized extensively, and funded satisfactorily. *The countermeasure effectiveness data presented in the guide probably shows the maximum effect that can be realized with high-quality implementation.* Many countermeasures have not been evaluated well, or at all, as noted in the effectiveness data. Effectiveness ratings (from 1 to 5 stars) are based primarily on demonstrated reductions in crashes; however, changes in behavior and knowledge are taken into account in the ratings when crash information is not available.

What's not included: Since the guide is intended as a tool for SHSO use, it does not include countermeasures for which SHSOs have little or no authority or responsibility, or that cannot be supported under typical highway safety grant programs. For example, the guide does not include vehicle- or roadway-based solutions. Also, it does not include certain countermeasures that already are in place in every State, such as .08 grams per deciliter blood alcohol concentration laws. Finally, because the guide only includes behavioral countermeasures and strategies, administrative or management topics such as traffic safety data systems and analyses, program planning and assessments, State and community task forces, or comprehensive community traffic safety programs are not included.

What's new: All chapters of the guide have been revised and updated for this biennially published edition. Information and research studies through May 31, 2016, have been reviewed and included as appropriate. Data has been updated to include information from NHTSA's 2015 FARS data.

A significant change in the ninth edition is that the detailed descriptions of one- and two-star countermeasures were moved to an appendix section in the guide.

This change is intended to emphasize that counter measures that receive one or two stars have NOT been determined to be

effective, either because there has been limited or no high quality evidence (one-star), or because effectiveness is still undetermined based on the evidence that is available (two-stars). The main section of the guide retains brief summaries for the one- and two-star countermeasures to facilitate navigation of the topics and to maintain continuity with previous editions.

Although no new chapters have been added to this edition, several countermeasures have been expanded:

- Chapter 1 expands the sections on DWI courts, ignition interlocks, DWI offender monitoring, and enforcement of drug-impaired driving, and augments the discussion of drinking and driving and drug-impaired driving characteristics in the chapter overview.
- Chapter 2 expands the sections on primary seat belt use laws, short-term, high-visibility seat belt enforcement, integrated nighttime seat belt enforcement, and inspection stations.
- Chapter 3 expands the section on automated enforcement and adds to the discussion of strategies to reduce speeding and aggressive driving in the chapter overview.
- Chapter 4 expands the sections on graduated driver licensing for beginning drivers and high-visibility cell phone and text messaging enforcement.
- Chapter 5 expands the section on motorcycle rider training.
- Chapter 7 expands the section on referring older drivers to licensing agencies.
- Chapter 8 expands the sections on Pedestrian Safe Routes to School and enforcement strategies, and adds to the crash factors discussion in the chapter overview.
- Chapter 9 expands the sections on Bicyclist Safe Routes to School, enforcement strategies, and Share the Road awareness programs.

How to Order

Download a copy of *Countermeasures That Work, Ninth Edition* from nhtsa.gov. Kristie Johnson, Ph.D., was the task order manager for this project.

Suggested APA Citation Format for This Document:

National Highway Traffic Safety Administration. (2018, April). *Countermeasures That Work, Ninth Edition* (Traffic Tech Technology Transfer Series. Report No. DOT HS 812 479). Washington, DC: Author.



U.S. Department of Transportation
**National Highway Traffic Safety
Administration**
1200 New Jersey Avenue SE., NPD-310
Washington, DC 20590

TRAFFIC TECH is a publication to disseminate information about traffic safety programs, including evaluations, innovative programs, and new publications. Feel free to copy it as you wish. If you would like to be added to an e-mail list, contact TrafficTech@dot.gov.